UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/737,369	12/16/2003	Debashish Purkayastha	I-2-0519.1US	5377

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EXAMINER
D AGOSTA, STEPHEN M

ART UNIT	PAPER NUMBER
2683	

DATE MAILED: 05/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/737,369	PURKAYASTHA ET AL.
	Examiner	Art Unit	
	Stephen M. D'Agosta	2683	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _21 December 2004_.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-20_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-20_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 12-21-04 have been fully considered but they are not persuasive.

1. The applicant argues that the prior art does not teach/remedy that which Gorsuch is silent on (eg. "....the application broker associated with the communications broker.....", see page 3 of the amendment). The examiner disagrees – it appears that the applicant has misinterpreted the examiner's rejection – specifically, Gorsuch teaches all of the claim limitations <u>except for handing-off *during* communications</u>. Gorsuch appears to select a system only during periods of inactivity (C3, L12-15) and thus <u>is silent on hardware/software that would provide a handoff during data transmission/reception</u>. Hence Vialen and Raychaudhuri are merely added to assert that prior art systems are available that would switch between communication networks if another network becomes available while roaming (eg. moving from Gorsuch's long-range, low-speed cellular network to a short-range, high-speed W-LAN network, see C2, L55-59). Hence the office action put forth:

"....**Vialen** teaches that user data transmitted through said point-to-multipoint connection could be buffered, such that data loss during handover can be prevented (C2, L44-47). Hence, one skilled would use buffering at the <u>BTS (or mobile)</u> during a handover that is controlled by software (eg. an application broker) while a link is established with a different second wireless system. Further to this point is **Raychaudhuri** who teaches a Handoff method <u>wherein both the switch and the mobile buffer cells</u> and the mobile controls when the handoff will occur (title). He states that "One of the problems with the current design of mobile ATM networks is that data cells being transmitted to and from a mobile terminal can sometimes become lost, duplicated or placed out of order when the mobile terminal is <u>handed off</u> from one base station to another" (C2, L24-28) and <u>that buffering occurs in the mobile (see claim 8, step g)....</u>"

Therefore the examiner interprets Vialen and Raychaudhuri as remedying Gorsuch's short-comings regarding "buffering data during a handoff". In the examiner's opinion, all other limitations are taught by Gorsuch. Hence, one skilled can adapt Gorsuch's system to provide means for handing-off from one network to another

network if/when the user roams from one to the other (which would utilize buffering as a precaution so as not to lose any data during said handoff).

2. The examiner contends that his previous Office Action teaches all the limitations put forth in the applicant's claims (including the "method" and "ASIC" claims).

3. **Upon further review, the examiner believes a more favorable outcome may occur if claim 1 (or 10 or 16) were amended with claims 2, 5, 6, 7 and 9.**

4. The original Office Action is provided below for informational purposes only.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Gorsuch US 6,526,034 and further in view of Vialen et al. US 6,577,868 and Raychaudhuri et al. US 6,023,461 (hereafter Gorsuch, Vialen and Raychaudhuri).

As per **claims 1, 10 and 16,** Gorsuch teaches a wireless transmit/receive unit (WTRU) [and/or handover method or ASIC] for communications in at least two types of wireless networks (title, abstract and figure 6 shows transceivers for CDMA and 802.11, #140 and #240)comprising:

A protocol engine having at least two wireless communications interfaces, each interface configured for linking with a different type of network (figure 6 shows protocol converters for CDMA and WLAN, #130 and #230);

Each interface configured to pass control signals and user communications data to a common application processing component (figure 6 shows common application processing component being the interface #120 and communications device #110);

An application broker configured to monitor control signaling between the lower layer protocol engine and the upper layer application processing component (figure 6 #120 and protocol converters #130/#230 are interpreted as providing "application brokering" as they interface between the user's application and the physical layer transmission medium. The examiner also notes that the transceivers sit at layers 1 and 2 of the OSI model and the protocol converters/interface sit at layers 3 to 7 and therefore provide "brokering");

A communications broker having a data buffer and defining a switchable data path for user data between the upper layer application processing component and a selected one of the wireless interfaces (C7, L46-56 teaches generic buffering in order to hold data/packets in order to "properly receive" subframes); and

But is silent on The application broker associated with the communications broker to control data buffering and data path switching by the communication broker such that data flowing to a first wireless interface of the protocol engine during a communication session is buffered while a wireless link is established with a different second wireless interface of the protocol engine for the communication session and the communication broker data path is switched to the second wireless interface and the buffered data is released therethrough after a wireless link is established for the communication session via the second wireless interface.

The examiner notes that switching between two disparate communications systems can dictate excessive setup time be incurred in order to change between the systems and determine where communications stopped on the one system and where it needs to be restarted on the second system (ie. similar to a hard handoff).

Vialen teaches that user data transmitted through said point-to-multipoint connection could be buffered, such that data loss during handover can be prevented (C2, L44-47). Hence, one skilled would use buffering at the BTS (or mobile) during a handover that is controlled by software (eg. an application broker) while a link is established with a different second wireless system. Further to this point is **Raychaudhuri** who teaches a Handoff method wherein both the switch and the mobile buffer cells and the mobile controls when the handoff will occur (title). He states that

"One of the problems with the current design of mobile ATM networks is that data cells being transmitted to and from a mobile terminal can sometimes become lost, duplicated or placed out of order when the mobile terminal is <u>handed off</u> from one base station to another" (C2, L24-28) and <u>that buffering occurs in the mobile (see claim 8, step g)</u>.

With further regard to claim 10, Gorsuch teaches handover from CDMA to a high-speed 802.11 system.

With further regard to claim 16, Gorsuch teaches a circuit for dual-mode connectivity (figure 6, #101).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Gorsuch, such that application broker associated with the communications broker to control data buffering and data path switching by the communication broker such that data flowing to a first wireless interface of the protocol engine during a communication session is buffered while a wireless link is established with a different second wireless interface of the protocol engine for the communication session and the communication broker data path is switched to the second wireless interface and the buffered data is released therethrough after a wireless link is established for the communication session via the second wireless interface, to provide means for temporarily storing data while a connection to a second wireless system is established to prevent loss of transmitted data.

As per **claims 2 and 11-12**, Gorsuch/Vialen teaches claim 1/10/10 wherein one of the wireless interfaces is for UMTS and the other is configured for 802.11 WLAN (figure 6 shows CDMA and WLAN).

As per **claims 3, 8, 13-14, 17 and 20**, Gorsuch/Vialen teaches claim 2/1/10/10/16 wherein the communication broker data path is configured to transport packet switched data (figure 6 shows a communications device #110 that can connect to either CDMA or WLAN systems which can support packet transfer). The examiner notes that "predetermined criteria" is interpreted as handing-off if/when a high-speed 802.11 link is available (see Gorsuch abstract).

As per **claim 4**, Gorsuch/Vialen teaches claim 2 wherein a data path is defined for circuit-switched data between the upper layer application processing component and the UMTS wireless interface (figure 6 shows communications device can connect to a CDMA system that supports circuit-switched data transfer).

As per **claims 5 and 9**, Gorsuch/Vialen teaches claim 2/1 wherein the application broker includes a link monitor and is configured to trigger the initiation of a wireless link through a different wireless interface based upon monitored link data meeting predetermined criteria (figure 6 shows WLAN detection circuit which detects a WLAN BTS and would be selected if/when high-rate data transfer is desired, C10, L44-50).

As per **claims 6, 15 and 18**, Gorsuch/Vialen teaches claim 5 wherein the application broker includes an application session manager configured to control the signaling during the establishment of a wireless link through a different wireless interface and an interworking unit configured to maintain and convert context information for transmission during the establishment of a wireless link through a different wireless interface (figure 6 shows an interface #120 and protocol converters #130/#230 that provide OSI layer 3 to 7 support which inherently comprises session management (at the session layer) and any/all data conversions required to interface to the transceivers which provide RF connectivity to CDMA or 802.11).

As per **claims 7 and 19**, Gorsuch/Vialen teaches claim 6/18 **but are silent on** wherein the application broker includes a SIM reader configured to read a SIM containing the user's identity.

The examiner takes Official Notice that SIM cards (and readers) are well known in the art of cellular engineering and are typically used to store user data such as identity, profile, etc.).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Gorsuch/Vialen, such that the application broker includes a SIM reader configured to read a SIM containing the user's identity, to provide means

for the system to read stored SIM card data for security/verification purposes along with user profile information.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. D'Agosta whose telephone number is 571-272-7862. The examiner can normally be reached on M-F, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Trost can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stephen D'Agosta
PRIMARY EXAMINER
3-29-05